SPENDTHRIFT HABIT IN NEW ROADWORK

American Highway Association Tells of Important Building Factors.

Buying good roads is a business transaction. Good bargainers get better road value for their money than poor bargainers. Poor bargainers usually do not know what good road value is. They see something they like in their travels and buy it for home use without stopping to consider that this may be as ridiculous as to put on a dress suit to feed the cows.

No man can make a good bargain for roads who does not know what is needed; yet a large part of the $300,000,000 which is being spent on American roads this year is paid out by men who do not know what is a good bargain in roads. This is not wholly their fault, for little has ever been said about the real economies of road construction.

Nobody but a spendthrift thinks of spending more money than he has on something he needs. He fits his expenditures to his income, if he is sensible. A sensible road commission tries to do the same, but is often hampered by a lack of knowledge of how to proceed. Detailed knowledge of this nature is only gained by wide observation, keen insight and shrewd judgment, and for this reason a competent state highway commission possessing such knowledge can render great aid to local authorities who apply to it for advice.

The first thing to be considered in buying good roads is the amount of money which it is wise for a community to spend for them. Most estimates of this nature are based on the existing annual tax receipts available for the purpose. This is not the best basis for a sound judgment. A family of three persons can make an income of $1,800 go further than a family of six persons. It is the same with roads. To find out roughly how much money can be devoted to road work it is best to divide the assessed valuation of the district by the miles of road in it.

This gives the valuation, or taxable wealth, of the district per mile of road. For instance, Lake county, Michigan, has a valuation of only $5,420 per mile, showing that not even the entire wealth of the county is sufficient to improve all its roads. Wayne county, Michigan, on the other hand, has a valuation of $214,831 per mile, indicating its financial ability to carry out any kind of road improvements in reason. In a rich agricultural district like Calhoun county, Michigan, the valuation is $52,294 per mile, indicating that it is financially able to construct whatever kind of main roads may be best suited for the travel on them.

We look with pity on the young saleswoman who spends all her money on clothes she does not need, which do not make her attractive to the clear thinking and thrifty young men of her acquaintance. We deplore the mortgages the clerk puts on his home to buy an automobile unnecessary for the welfare of his family. And yet we complain when a county with a very low valuation per road mile is not intersected with roads as smooth as the top of a billiard table. This shows that we have our foolish ideas, like the flighty saleswoman and the extravagant clerk. As a matter of fact Lake county, Michigan, is showing good judgment in restricting its road building to gravel roads costing $2,000 a mile. The country is not able now to build roads costing $18,000 a mile, as Wayne county is doing, and such expensive roads are probably not yet needed.

There is a measure of the need for roads, just as there is a measure of the financial resources for road-building. This measure is the travel the road is carrying now, and the probable increase in the travel during the next five to ten years. The improvement of a country road results in the slow development of property along it, so that there is a slow annual increase in what is called the residential travel.

If the road is on a through route between important cities some distance apart there may or may not be a material increase in the foreign travel, by which is meant the travel between these cities. This can only be determined by a study of local conditions. The residential travel can be actually counted, however, and this ought to be done. The state highway department of the United States office of public roads and rural engineering at Washington will furnish instructions for the work, which can be done by school children under the direction of their teachers. This is a kind of child labor which no reformer will weep over and the efficiency expert will approve.

We have now found out something about our resources for road building and the travel our roads must carry. This brings us to the point where technical advice is needed. We are like the sick man with a little money laid aside, whose physician must recommend treatment within these means or he is not a professional man but just a pill peddler. For example, twenty years ago, when broken stone roads without any bituminous material to bind them answered all requirements, experience in the suburbs of large eastern cities indicated that the most durable roads there were constructed of trap rock.

This is quite expensive, prohibitively expensive, in many parts of the country, but the idea became general that it was the best rock that could be employed under all conditions. This idea was broken down by the scientific investigations of the United office of public roads, which showed that trap rock was not so suitable as other classes of rock, far more widely distributed than trap and consequently less expensive. Still later it was shown that roads without any rock at all, made of certain proportions of sand and clay, were actually better for very light traffic in some districts than roads with broken stone surfaces.

The travel over a road wears it out in different ways, according to the number and character of the vehicles, the relative proportion of horsedrawn vehicles and automobiles, the climatic conditions and the construction of the roads. For the same travel a road adapted for a moist section with cold winters is needlessly expensive for a dry section with little frost. Some types of roads wear out quickly but are easily maintained. Other types withstand travel well, but when they need repairs the work is expensive. All these things must be considered in determining the annual cost of a road, which is done in the following way:

The first element of this cost is the first cost of construction per mile of road, including all engineering expenses. Knowing the travel over the road, an expert can estimate the number of years such a road will serve its purpose if properly maintained, before reconstruction is necessary. This cost, divided by the number of years of service, gives the annual interest on the first cost per mile and the annual payment into a fund which will be enough to reconstruct a mile of the road when it is worn out or to retire the bonds that are sometimes issued to pay for the first cost.

The annual cost per mile of maintaining the road in serviceable condition is the last item to be mentioned. The sum of all these items is the total annual cost per mile of the road, and this figure is the most important one to the taxpayers. But another unit for measuring cost, which is sometimes very useful, is the cost of the road per vehicle mile. This is obtained by dividing the total annual cost per mile by the number of vehicles using the road annually. The type of construction which gives the lowest cost per vehicle mile is generally the best to employ.—Dallas News.

No Trust.

"Then you won't sell me the place on time?"

"No."

"And you call this a trust company? Bah!"

SEDGWICK COUNTY FULL OF HIGHWAYS

Seventy-five Miles County Highways Best Roads in Kansas.

Sedgwick county now has about seventy-five miles of county highways, designated as such under the county road law, and some of the finest dirt roads in the state are to be found here.

Five years ago when these roads were taken over by the county they were among the worst in this section. Today most of them are in excellent condition and are much used by the motorist who finds pleasure in country driving.

Eighteen months ago the supervisor system was inaugurated, one man being given control of a long stretch of highway and required to devote his entire time to it if necessary. The plan has worked satisfactorily, resulting in much better roads than under the former system of "farmer dragging".

The Lawrence avenue road is the north and south county highway, the east road leads out Harry street from Linwood park to the county line, and the west road runs west from the end of the pavement on Douglas avenue out Maple street to Goddard, then south to Harry street, west through Cheney, south three miles and west one and one-half miles to the county line.

Nine miles of "blow road" on the South Lawrence road formerly gave motorists and farmers much trouble. This stretch has been covered with a deep coat of red clay which has proven to be ideal road material. Some of the clay was hauled as far as five miles. A light coat of coarse sand and gravel has been placed over the clay. This is the best road leading south from Wichita.

West of Wichita, running through the Big Slough country, was another sand stretch that had always been an extremely bad piece of highway. It, too, was given a layer of clay, over which a coating of oil and chatts was spread. Now it is said by many to be the best in the county. Several deep fills were made, some of which required many thousands of yards of dirt. Thus the low and boggy places were overcome. It is classed as a 365-day highway. In fact, it is equal to some of Wichita's best paved streets. One unusual feature of it is the fact that it is best when wet.

The east road, the first to be graded with the new engine equipment, has received less attention than any of the others, yet it is an excellent highway. Much teamwork has been done on it, many fills having been made and grades lowered. Although it has not been surfaced in any manner, it is always passable and usually in condition for fast driving.

With the exception of a few large structures, only concrete bridges will be found on the county highways. The old bridges will be replaced with concrete when they are worn out. Some of them will be moved to roads that are traveled less.

In addition to the grading of county roads by engine outfits, this equipment has done work on a large mileage of roads still under the control of the Derby and Mulvane roads, comprising 19 miles; the Clearwater road 21 miles; the Sunnyside road, the Furley and the Whitewater roads, 14 miles; the Mount Hope road (now building), 8½ miles; the Greenwich and El Dorado road, 15 miles; the Kechi and El Dorado road (now building), ten miles, three roads leading east to the county line to carry the oil field travel, including the Kellogg street road (to be oiled for eight and one-half miles), and the Haysville and Peck road, 14 miles.

At the suggestion of E. V. Money, county engineer, the county has adopted a policy of aiding the townships in replacing small wooden culverts with concrete. A foreman, working directly under the engineer, does the work. Material for these culverts is bought in carload lots, enabling the purchaser to secure it at cost. This has resulted in the township taking a greater interest in this class of work, and nearly five hundred of these culverts, ranging in size from 4 to 20 feet, have been built during the four years Mr. Mooney has been county engineer.

Sedgwick county has about eight hundred concrete culverts, undoubtedly the largest number to be found in any county in Kansas.

There are approximately 2,400 miles of roads in the county, and about eight thousand bridges and culverts. The three large streams, the Big and Little Arkansas rivers and the Ninnescah river, with innumerable tributaries and smaller streams, necessitates many bridges. The west part of the county is flat and subject to overflow. Numerous basins without outlets give much trouble. North of Wichita is another overflow territory. Plans to drain and prevent these overflows are now under

Aside from the county roads, Sedgwick county has about fifty miles of graveled highway. There are nearly a hundred miles of sand-clay roads and most of them have been built by the various townships with county aid. The first sand-clay road was built on West Thirteenth street in 1909, and it has proven a success.

The county owns two large gasoline tractors, graders, levelers and other equipment necessary to modern road building. The outfit also includes an elevating grader, an oiling outfit and many wheelers, slips and drags.—Wichita Eagle.

Explained.

The fair young maid from Oklahoma was seeing the ocean and the navy for the first time.

"It's all just perfectly lovely, captain," she said leaning over the rail, "but there are some things that I'd like to have explained to me. What do you mean by the mess?"

"Why, Miss Guthrie," replied the gallant captain, "that used to be the general term for our table, but of late it has been a code word all down the line signifying the secretary of the Navy, in honor of what he has made of his opportunity."—Life.

The Bull Moose is Dead.

"What I propose," said the man who gets very much in earnest, "is a political organization that will be free from all selfish interest, laboring only for the highest ideals—"

"I know," interrupted the rude person. "You're going to start one of those sea-serpent parties."

"Why do you refer to it as a sea-serpent party?"

"Because there ain't no such animal."—Washington Star.

Hopeless.

"That man we were just talking to seems to be perfectly normal," remarked the visiter who was being shown over the insane asylum.

"And yet he's one of the very worst cases we have," replied the attendant. "That man thinks he can get as many miles out of a gallon of gasoline as the agent who sold him his car said he could."

WINS IN HAYNES OLD CAR CONTEST

Ed J. Howard, Jeffersonville, Ind., Gets Haynes "Light Twelve."

The award of the "light twelve" automobile, offered by the Haynes Automobile company to the owner of the oldest car in America, goes to Ed J. Howard, Jeffersonville, Ind. Mr. Howard has an old gear-driven Haynes which he purchased at the factory in the summer of 1897. Since that time the car has been in his possession. After a 19-year period of service in the hills of the Ohio valley the car is in running condition today.

The old car, which was the oldest in a field of 140 entries, is to be formally presented to Mr. Howard on October 12 at Indianapolis. The exchange is to be part of the good roads day program of the Indiana centennial celebration. Hon. Samuel M. Ralston, governor of Indiana, will act as donor on the occasion and present the car to Mr. Howard.

While the old car bears little resemblance to the one-cylinder pioneer Haynes, which is now on exhibition at the Smithsonian institution, Washington, D. C., it is distinctly a product of the first days of the automobile industry. One feature that particularly marks its period of manufacture is the use of air-operated exhaust valves in the place of valves mechanically operated by the camshaft, that were of later appearance. The two-cylinder double-opposed motor is mounted directly over the rear axle.

This old "horseless carriage" is in very good condition. It has never been repainted and there have been no mechanical changes or repairs of consequence.

The second car in age belonged to Walter E. Smith, Bound Brook, N. J., and two other old two-cylinder Haynes built before 1900 were located at Newport, R. I., and Torrington, Conn., in the possession of H. P. Norton and E. G. Perkins. The fact that these cars had chain drives and mechanically operated valves marked them as later types than the Jeffersonville car.